Neuropsychological Assessment and Schools

By Douglas M. Buyer, Ph. D.

Introduction

Neuropsychological evaluation provides a unique opportunity to evaluate the characteristics and needs of children and youths with acquired brain injury (ABI). This controversial method of assessment has marked strengths and weaknesses and bears a limited resemblance to traditional school psychological methods.

Schools have always considered neuropsychological principles primarily in terms of child development. A typical school psychological evaluation, particularly that of a younger child, will consider developmental issues, looking for both “developmental deficits” and “developmental delays”. School psychologists also are involved in the gatekeeping function of special education and other interventions for children. Along with classroom teachers, administrators and parents, they help provide interventions for children with special needs.

The history of neuropsychological assessment is somewhat different. It originated in the medical clinic and initially was used as a means of diagnosing neurological impairment or brain-based dysfunction as a cause of deficiencies. It has grown dramatically since then to include questions of the type of dysfunction, functional difficulties in terms of the patient’s ability to do real-life tasks and interventions. Its strength however, still lies in describing areas of cognitive strengths and weaknesses. A neuropsychological assessment does not necessarily result in a strong statement regarding potential intervention.

Positive reasons for thorough evaluations are numerous. First and foremost, while the role of standardized testing continues to be debated, it does provide a relatively objective and thorough method of comparing an individual on a variety of tasks (presumably indicative of aspects of his/her cognitive, motoric, linguistic and perceptual functioning) to his/her peers. It is intrinsically developmental, as when the performance of a child and adolescent is only measured against others of a similar age. Typically, these tests are researched extensively and the degree of a child’s difficulty relative to his/her age group is fairly certain.

Such evaluations often help establish a medical diagnosis. It is very common that a child with an injury is seen well after the fact, lacking an earlier assessment close to the time of the injury. Establishing that the child’s difficulties are in fact caused by an acquired brain injury is a frequent goal of neuropsychological assessment. Establishing psychological diagnoses, including mental health difficulties, that are either primary or secondary to the brain injury, also needs to be done. These diagnoses often allow for special interventions and appropriate treatment to be provided. Repeated evaluations allow progress to be charted over time and the formulations of psychological interventions, educational interventions and other strategies.

Often, families can benefit greatly from the information provided by neuropsychological assessment in terms of better understanding their child, coping and adapting to his/her changing needs. Psychological evaluation provide a great deal of assistance in defining the child’s strengths, weaknesses and learning style. While a teacher or parent may observe the child’s difficulties in a more global fashion, such assessments can help clarify the area of difficulty more specifically in terms that are understandable and useful.

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The ability to reach these goals varies with the practitioner. Psychologists are not necessarily master teachers, soothsayers or supervisors of other disciplines. They do not have the practical authority or power of a physician. As much as anyone else, they are affected in their professional functioning by their personality characteristics. It also must be recognized that taking a child into a clinic setting, presenting a professional with a series of complaints and expecting him/her to somehow fix them is somewhat unrealistic. People do not change that readily, and we often expect that children will be more readily changed than adults will. Changing a child to meet others' specifications may not be justified or possible.

Why Pediatric Neuropsychology?

Children are not small adults. They are developing and changing over time socially, behaviorally, cognitively, and neurologically. Their brains are not small versions of adult brains. There are ongoing anatomical and chemical changes that dictate how they respond to their environment (Spring, Reuschel & Edgell, 1995). The units and systems of the brain mature differentially, effects of trauma change and how the child is expected to function in his/her environment changes dramatically. For example, younger children are not expected to show the same sort of sequential judgment that is expected of adolescents. This is primarily due to changes that have occurred in their nervous systems over the years.

Pediatric neuropsychological assessment must account for those developmental changes as well as neuropsychological changes. Changes even occur throughout adolescence. Development in the tertiary output/planning area occurs from adolescence through young adulthood and is marked by observable changes in the structure of the frontal lobes. This influences how we expect a young adult to make decisions and attachments, as well as his/her ability to solve real-life problems. At different ages, injury to this maturing system may cause dramatically different effects.

Methods of Neuropsychological Evaluation

Neuropsychological assessment offers some advantages over a typical school psychological assessment, but also has several disadvantages. One advantage is that neuropsychological assessment is typically much more thorough than a school psychological assessment. More varied areas of cognition, linguistic, perceptual and motor functioning are evaluated on a neuropsychological assessment than typically a school psychologist either has training for or is allowed the time to do. Typically, the neuropsychologist has additional insight into neurologically related aspects of a child's functioning.

School psychologists have the advantage of working in the environment in which the child spends a good portion of the day. They can observe the child in the classroom and consult with a variety of professional staff members. In terms of educational practices, they work where the intervention is done and can be in contact with the diagnostic teaching process and guide changes in intervention strategies that may be beneficial to the child.

The methods in neuropsychological evaluation vary. There are several structured batteries that are in wide use. There is a host of qualified and expert practitioners who utilize more flexible diagnostic techniques. In perspective, it is not the approach utilized that matters,

but rather what the practitioner gets out of it. The evaluator is central and, if an expert, should be able to choose the tools. Clinical judgment, knowledge of models of neuropsychological functioning and brain injury and insight into development matter above all. Assessments should be multifaceted. Time efficiency also may be an issue (particularly with managed care routinely limiting care).

Taylor and Fletcher (1984) offer one model of assessment. They advocate that one must thoroughly evaluate the presenting problem initially. The evaluation must assess a wide range of traits and characteristics and not be limited to cognitive functioning. A good assessment considers relevant historical and environmental factors and will evaluate both biological and environmental factors interacting. An assessment includes looking at a child's emotional, behavioral and neuropsychological related functioning as a whole. It also looks actively for how that child interacts with home, school and community environments. Test selection is flexible, but it should be thorough and measure a wide range of the child's abilities in various areas of functioning. Tests are a method of getting to know the whole child and integrating his/her neuropsychological and neurological functioning with other aspects of life.

Bernstain and Waber (1990) use a similar approach, advocating the need to maximize the usefulness of one's observation regardless of the specific test instrument. For example, when giving the child an instrument that may involve assembling puzzles, one is also evaluating visual attention and bimanual use if hands, even though that is not necessarily reflected in separate scores. This allows one to be time-efficient, intensive in one's observations and draw some comprehensive systematic observation of the child's skills and strengths.

This model looks strongly at a child's functioning as a function of his/her developmental timetable, neurological structures and the use of alternate pathways and strategies. This includes evaluating how a child manages to solve problems and do tasks in less efficient ways as a method of coping with difficulties in doing them in a more efficient or comprehensive fashion. Utilizing this approach, the assessment time may not be much longer than the time it takes to administer a typical school psychological evaluation, but it requires additional training and insight into neuropsychological variables. Outcomes from the neuropsychological assessment include a summary and formal statement regarding the child that may well change the thinking of his/her parents and teachers regarding his/her functioning. Family and school recommendation, issues dealing with the psychological care of a child, medical suggestion and recommendation for the child's involvement in a variety of activities also can be products of the assessment.

Relationship of Assessment and Intervention

It is no longer enough just to strive for diagnostic accuracy, effectively categorizing children and adolescents according to the etiology of their difficulties. Telling someone with a history of ABI that they appear to have neurologically related weaknesses on psychological test results might appear irrelevant. Rather, providing the individual with information about his/her strengths and weaknesses, an estimate of his/her neurologic progress and integrity and a fuller description of how the individual appears to be functioning intellectually may be very valuable. This may change the child's self-concept in a positive direction, assist the

conceptualizations of parents and teachers and provide a much stronger basis for appropriate, targeted educational strategies and other interventions.

By itself, an assessment does not necessarily result in strong, specific intervention recommendations. Choice of a specific curriculum, recommendation for particular schedule changes across a high school day or recommendation for the selection of a particular post-graduate educational experience may not be directly forthcoming from psychological test data and observations. When paired with diagnostic teaching, direct observation and knowledge of the child in a school setting, however, the neuropsychological test data and its interpretation may be invaluable.

Children and adolescents with ABI are very difficult to predict. It can be particularly difficult when one tries to predict across time, environment and tasks. It is a jump to go from specialized laboratory assessment devices, such as neuropsychological test instruments, to real-life tasks and functional skills. When assessment and real-life functioning are paired together, one really can begin to assist in making positive changes in the life of a child or teenager.

How to Get the Most out of an Assessment

The most important part of an assessment is not the specialty of the practitioner, but who that person is. One must gauge the practitioner's personal characteristics, professional training and experience in the particular area. There is nothing wrong with interviewing a potential service provider before arranging an appointment for your child. Particularly, questions could cover the practitioner's experiences with similar population, training and typical procedures. Listening to your concerns, expectations and hoped-for outcomes can be vital in targeting the assessment and making sure that your concerns are explicitly addressed.

Providing a lot of history in advance of the assessment is also very useful. Prior to the assessment, medical and educational records can be forwarded to the practitioner's office. This may help the practitioner understand the nature of the difficulty and its evolution prior to beginning the assessment. This also gives the practitioner a greater appreciation of what the child and family have been through and helps clarify the referral question earlier in the evaluation process.

Practices and practitioners vary, and so should the decision-making about neuropsychological assessment intervention. By and large, advocating the best interests of the child should be part of an evaluation. It is best to find someone who appears sympathetic to the child's history and needs, is knowledgeable about the practicalities governing school practices and interventions and possess an understanding of what acquired brain injury is developmentally and its consequences. A school psychologist may have these qualifications; there are also neuropsychologists who are lacking in some of these areas. One must shop for a qualified practitioner.

Given the different advantages of these two disciplines, it is possible that a child can be served best by having them work together as partners. Many of the programs and concepts in education and special education were conceived and developed by psychologists and neuropsychologists. Having the neuropsychologist provide an initial assessment including potential strategies and interventions to the school practitioner, and

having the school psychologist provide the follow-up may be the most beneficial method. The neuropsychologist also may provide innovative or current ideas for remediation. An individual child's status still may be improved by targeting specific areas of weakness directly revealed through evaluation. In this way, the advantages of the neuropsychologist in terms of training and clinical model can be utilized best, and the school psychologist's expertise in intervention and his/her access to the school environment also may be utilized best.

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